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	Hemodialysis (HD) Day	1 day Post-HD	2 days Post-HD	Normal Controls
Vector Magnitude Daily Average (Counts/Day ± SD)	347122 ± 135299	389077 ± 168033	417870 ± 174145	651685 ± 58283†
P-Value relative to day of HD (2-tailed)		0.138	**0.015***	**< 0.001**

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APOLIPOPROTEIN B/A1 IS INDEPENDENTLY ASSOCIATED WITH CAROTID INTIMAL-MEDIAL THICKNESS IN CHRONIC KIDNEY DISEASE PATIENTS.

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Serum apolipoprotein B/A1 (apo B/A1) ratio has been known for strong predictor of cardiovascular disease (CVD). Measuring carotid artery intimal-medial thickness (CIMT) is non-invasive modality used to evaluate subclinical atherosclerosis and to predict future cardiovascular disease. The objective of this study is to evaluate the association between apo B/A1 and CIMT in chronic kidney disease (CKD).We retrospectively reviewed the 293 patients who had visited health promotion center in a single community. The patients were divided into 2 group which are CKD group (n=99, estimated glomerular filtration rate (eGFR): 15-59 mL/min) and non-CKD group (n=194, eGFR ≥ 60 mL/min). Age, sex, presence of diabetes mellitus (DM)/hypertension, smoking status, eGFR, body mass index, and various biochemical blood examinations (serum LDL/HDL cholesterol, serum homocystein, and serum apo B/A1 ratio) were evaluated in each patient. CIMT was measured by high-resolution B-mode ultrasonography. Multivariate linear regression analysis was performed to investigate which factors are associated with CIMT in each of 2 groups. In CKD group, age (β=0.163, p=0.024), presence of hypertension (β=0.208, p=0.006), and presence of DM (β=0.236, p=0.002) were independently associated with CIMT adjustment for other confounding factors. However, in CKD group, serum apo B/A1 (β=0.572, p < 0.001), presence of HTN (β=0.360, p=0.001), and presence of DM (β=0.194 p=0.023) contributed to CIMT independently after adjustment for other confounding factors.

In conclusion, this study showed serum apo B/A1 ratio was independently associated with CIMT only in CKD group, not in non-CKD group. Because CIMT is a strong predictor of CVD, the result of this study demonstrates serum apo B/A1 ratio could be included in cardiovascular risk stratification in CKD patients

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DAILY PHYSICAL ACTIVITY (DPA) IS MARKEDLY REDUCED IN MAINTENANCE HEMODIALYSIS (MHD) PATIENTS

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patients are considered to be physically less activity than normal, but there are only few studies on this question. We measured DPA over 7 days, with the new Actigraph GT3X+ Activity Monitor®, on 63 patients receiving MHD 3Xwk for ≥6 months and 36 matched normals. Patients were 52 ± 14SD years, 30% female; 35% diabetic; dialysis vintage, 61 ± 47 mos. Normals were 49 ± 12 years, 42% female, with similar racial/ethnic mix. The average daily vector magnitude for DPA, calculated as the square root of the sum of the squares of the three dimensional axes, was much lower in MHD, 398,868 counts (counts include HD days), vs. Normals (651,685 counts, P < 0.001). In MHD vs Normals, % time in sleep or marked physical inactivity was 81% vs 73% (P < 0.001); % time in ≥moderate activity, 4.0% vs 7.0% (P < 0.001). In MHD, there was a trend toward increasing physical activity as patients progressed from the HD day to one day and then two days post-HD (Two days post-HD vs. HD day, p=0.015). This trend might be due to reduced activity in the HD unit, increased physical activity on weekends, or exhaustion from HD. Thus, compared to matched normal adults, MHD patients have markedly reduced DPA. Since study subjects had to be willing and able to complete physical performance tests, the most debilitated MHD patients were not recruited to the study. Hence, decreased DPA in MHD patients might be even greater than observed.

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BODY COMPOSITION IN HEMODIALYSIS AND PERITONEAL DIALYSIS PATIENTS

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Bioimpedance analysis is a reliable technique for determining post dialysis target weight. Using this technique, we can understand body fluid status easier and conveniently. Moreover this technique can be used for check nutrition status and nutritional status of dialysis patients. We compared the body fluid status and nutrition status between hemodialysis (HD) patients and peritoneal dialysis (PD) patients by BCM (Body composition monitor) technique. We studied 48 (30 males and 18 females) PD patients, 21 (10 males and 11 females) HD patients. Body composition monitoring (BCM, Fesenitus Medical Care, Germany) was used as a tool for the analysis of bioimpedance. Extracellular water, Total body water, Intracellular water, Overhydration, E/I, Lean tissue mass, Fat Tissue mass was measured and those results were compared between two groups. HD patients were more hydrated than PD patients (61.9% vs. 35.4%) and nutritional status such as LTI was poorer than peritoneal dialysis patients (11.7 ± 1.7 vs. 15.3 ± 2.6). Although total body water is more abundant in peritoneal patients (29.4 ± 5.5L vs. 35.9 ± 6.2L), Extracellular water and intracellular water ratio was relatively higher in Hemodialysis patients (E/I 0.98 ± 0.13 vs. 0.87 ± 0.12). The nutrition status was better in PD patients by comparing the percent of lean tissue mass (LTM%) between two groups (LTM% 52.1 ± 10.6% vs. 66.8 ± 11.3). In conclusions, Hemodialysis patients were more hydrated with poorer nutrition status than peritoneal dialysis patients, but, due to the significant difference of age between two groups, further study should be required.

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THE CHALLENGE OF PD PATIENTS: GLUCOSE AND GLUCOSE DEGRADATION PRODUCTS IN PD SOLUTION

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The main osmotic agent found in the peritoneal dialysis (PD) solution is glucose. It has been of a wide use for great crystalloid osmotic power at a low concentration, simple metabolism, and excellent safety. On the other hand, anywhere between 60 to 80% of the glucose in the PD solution is absorbed - a 100 to 300 mg of daily glucose absorption. Once into the systemic circulation, glucose can be a cause for metabolic complications including obesity. Indeed, the diabetiform change observed in the peritoneal membrane in the long-term PD patients is believed attributable to the high-concentration glucose in the PD solution. The glucose absorbed from peritoneal cavity raises the risk of 'glucose toxicity', leading to insulin resistance and beta cell failure. Clinical similarity can be found in postprandial hyperglycemia, which is known to be associated with oxidative stress, endothelial dysfunction, NF-κb, and inflammation, affecting myocardial blood flow. Moreover, it is a proven independent risk factor of coronary artery disease in patients with type 2 diabetes, particularly of female gender. Though speculative yet, glucose toxicity might explain a higher mortality of PD patients after the first year compared with those on hemodialysis (more so in female, advanced-age patients with diabetes). Also included in the picture are glucose degradation products (GDPs) generated along the course of heat sterilization or storage of the PD solution. They have been shown to induce apoptosis of peritoneal mesothelial cells, renal tubular